Letter to the Editor

With interest we read the article by Pergolizzi et al., (2020) about a systematic review about the neurological manifestations of patients with COVID-19 (Pergolizzi Jr, J. V. et al., 2020). It was concluded that SARS-CoV-2 enters the brain via ACE2-receptors, that neurological disease only rarely precedes the onset of pulmonary manifestations of a SARS-CoV-2 infection, that patients with pre-existing neurological conditions are at an increased risk of experiencing COVID-19 associated neurological abnormalities, that particularly patients with severe COVID-19 are at an increased risk of experiencing neurological disease, that drugs suppressing the immune response against SARS-CoV-2 are contraindicated for treating neurological involvement, and that the neurological disease in COVID-19 patients may be easily missed (Pergolizzi Jr, J. V. et al., 2020). We have the following comments and concerns.

The main shortcoming of the review is that it is highly speculative. There is no study available which clearly indicates that patients with pre-existing neurological disease are at an increased risk during a SARS-CoV-2 infection of developing additional neurological compromise. Entrance of SARS-CoV-2 to the brain via ACE2-receptors also remains unproven. There is no evidence available that particularly patients with severe infection are at an increased risk of experiencing neurological complications.

The authors do not mention a number of potential neurological manifestations of the SARS-CoV-2 infection. Central nervous system (CNS) abnormalities not included were sinus venous thrombosis, intracerebral bleeding, subarachnoid bleeding, acute, haemorrhagic, necrotic encephalopathy (AHNE), acute demyelinating encephalo-myelitis (ADEM), vasoconstriction syndrome, pituitary apoplexies’, psychosis, Parkinson’s disease, myelitis, and plexitis (Utukuri, P. S. et al., 2020; Finsterer, J., & Stollberger, C. 2020; & Pellegrini, L. et al., 2020). Among the peripheral nervous system (PNS) abnormalities associated with SARS-CoV-2 the authors did not discuss dysgeusia, myasthenic syndrome, myositis, rhabdomyolysis, and myasthenia (Restivo, D. A. et al., 2020).

Missing in the review is a discussion about secondary neurological compromise in COVID-19 patients due to side effects of drugs given to treat COVID-19. These drugs include chloroquine, azithromycin, steroids, and others.

Overall, the review by Pergolizzi et al., has some limitations which should be met before drawing final conclusions. There is a need for prospective studies on the neurological involvement in SARS-CoV-2 infected patients. Neurological side effects of drugs given to treat COVID-19 should be included in a review about neurological disease in COVID-19.
REFERENCES


